ONTARIO'S VALUE-ADDED WOOD PRODUCTS MARKET POTENTIAL IN THE U.S. GREAT LAKES STATES

VOLUME 3
PRODUCT BENCHMARKS

Prepared for the Living Legacy Trust
December 2003

WOODBRIDGE ASSOCIATES INC.
In association with Clayton Research Associates

Preface

This report has been prepared for Ontario's Living Legacy Trust under Phase II of Funding Program 6. The report comprises the following documents:

VOLUME 1
Main Report

VOLUME 2
Industry Profiles

VOLUME 3
Product Benchmarks

See websites:
www.livinglegacytrust.org
www.olma.ca
www.woodbridgeassociates.com

VOLUME 4
Opportunities Report

Available only to Qualified Users. See footnote [1]

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[1] For competitiveness reasons, *Volume 4 Opportunities Report* is available only to firms that have operations within Ontario. Please contact Karan Aquino, Executive Director of the Living Legacy Trust www.livinglegacytrust.org

Introduction

This multi-volume report focuses on the export market outlook for three specific product groupings produced in Ontario:

Group A: Wood Building Components
Group B: Millwork
Group C: Factory-Built Structures

The goals of this study are to identify dominant and growth products within each of these three product groups. It is intended that the study will help Ontario's manufacturers identify intermediate and end-use markets for at least the dominant and growth products, and link these to increased trade between Ontario and the United States.

Scope and Layout of the Report

'Volume 1 Main Report' provides detailed analyses of export market opportunities in the Great Lakes region for the three sub-groups of Ontario's wood product manufacturing industry. Volume 1 also presents our evaluation of Ontario's competitiveness in these product groups compared with others suppliers. Conclusions are presented for (a) strategic issues and (b) operating issues that might impede Ontario's ability to capture these growth opportunities. Volume 1 contains our recommendations for follow-up initiatives and an Executive Summary.

'Volume 2 Industry Profiles' provides a summary of data relating to the industry size, shipments and product-mix profile of the Ontario wood products industry. These are used as a base for the analyses presented in Volume 1. It also presents a profile of the structure and shipments of the wood products industry in the U.S Great Lakes region relating to the three groups of products identified above.

This supplementary report *'Volume 3 Product Benchmarks'* forms part of this series. It presents an overview of Ontario's wood product exports to the Great Lakes. Benchmark data are provided summarizing Ontario's exports to each state. Volume 3 also presents economic profiles of the eight Great Lakes states with demographic and construction industry projections to 2010 and 2020. These provide a basis for our forecasts of future demand.

Finally, *'Volume 4 Opportunities Report'* presents additional details of the specific opportunities discussed in Volume 1 along with an analysis of the economic, financial and policy implications of the growth projections.

Volumes 1-3 are available to the general public from the Living Legacy Trust. Volume 4 is available only to firms that have operations within Ontario.

A *Glossary of Terms Used* is provided in Appendix A.

LIVING LEGACY TRUST

IMPORTANT NOTES & DISCLAIMER

The Consultants have prepared these reports on the basis of the best available information and provide these findings in good faith with the intended goals as stipulated in the terms of reference. The Consultants do not accept any responsibility for any decisions taken directly or indirectly, in whole or in part, based on information or findings contained in the report. Users of the information are advised to verify all data and analyses for themselves before proceeding with any course of action that appears merited by the analyses and conclusions provided.

104-03436/

The Living Legacy Trust

The *Living Legacy Trust* is a $30 million fund established by the Province of Ontario to invest in natural resource management projects in northern Ontario. The assets of the Trust are managed by an independent Board of Directors which represents various stakeholder groups. Projects receiving funding will bring economic, social and recreational benefits to the people of Ontario and serve as models of excellence in forestry, fish and wildlife practices.

Value-Added Committee Members

Value-Added Committee members acting as advisors on the Phase II study include the following.

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David Milton
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Lakehead University

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Ontario Ministry of Enterprise, Opportunity and Innovation

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U.S. Great Lakes Region

U.S. Great Lakes Region

Chart 1

The Great Lakes region is well developed economically. With an estimated population of close to 83 million persons in 2002, the region accounted for about 29% of the total population in the United States.

Population of the Region

Population growth in the region is slower than the average for the United States overall, ranging from a high of 0.7% in Minnesota from 2001 to 2002 to a low of 0.3% in Pennsylvania and Ohio, compared with a national average of 1.1%.

In terms of population distribution, the largest population concentration in the region is in New York State (19 million in July 2002) while the lowest is in Minnesota (4.9 million). Table 1 provides the details.

Table 1
Living Legacy Trust Phase II
Population Estimates for U.S. Great Lakes Region

State	Population '000 July 2002	Population Growth 02/01
New York	18,976	0.4
Illinois	12,419	0.6
Pennsylvania	12,281	0.3
Ohio	11,353	0.3
Michigan	9,938	0.4
Indiana	6,081	0.5
Wisconsin	5,364	0.7
Minnesota	4,920	0.7
U.S Great Lakes Region	81,332	0.4

Source: U.S. Census Bureau.

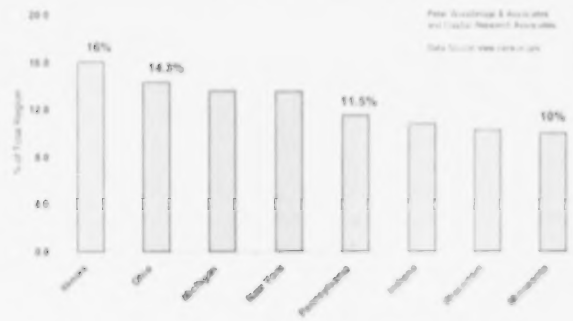
Great Lakes Region Housing Markets

Illinois (#2 in population) accounted for over 16% of regional residential permitting activity during 2002. New York and Pennsylvania, which also have large populations, account for a proportionally lower share of overall new residential construction activity (Chart 2).

New residential housing activity in the US Great Lakes states, however, is comparatively strong in proportion to population. Thus, per thousand population, it is clear that new housing activity in Michigan (Ontario's #1 market for wood products) has been growing at a faster rate than in New York and Pennsylvania, for example. Overall, the region has a higher percentage (74% v. 72%) of single family starts in its total mix than the national average.

Chart 2

U.S. Great Lakes Region
Distribution of Building Permits, by State 2002



Within total building permits, single family construction activity is strong in every state throughout the region, but multi-family activity is comparatively stronger in some states (e.g. New York) than others, as might be expected from population densities.

Demand for value-added wood products in markets such as home improvement and manufactured housing within the region is strong. Both of these are substantial sub-sector markets for many of Ontario's wood product manufacturers and value-added wood processors.

Overall, new residential construction activity in the region, as measured by permit levels, shows a varied history of new home construction over the past twenty years (Chart 3).

Recent trends for the region mirror those experienced during the 1990's elsewhere in the U.S. New construction activity followed a rising trend throughout the period and remains strong today.

From a cycle low of 236,000 housing permits in 1991, levels rose to 364,000 units by the year 2002.

Chart 3

U.S. Great Lakes
Residential Housing Permits
1983-2002

Manufactured Housing

The U.S. Great Lakes region is a major consumer of factory-built housing. It has clusters of factory-built housing plants which supply the Midwest, North East and other parts of the US. Some of the largest manufactured homes (HUD Code) and residential modular producers in the industry are located in the region, notable around the Elkhart Valley.

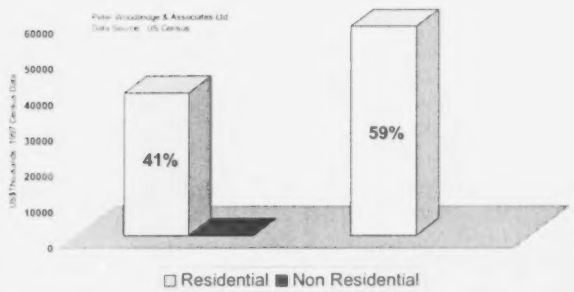
Leading producers include All American, Champion (and Genesis Homes), Fleetwood, Ritz Craft (which currently has the largest per square foot area of manufacturing capacity under a single roof), Crest and many others. These firms frequently enjoy the benefits of large industrial clustering complexes, which helps drive down their unit costs of production.

Non-Residential Construction Markets

The U.S. Great Lakes region is an important consideration for Ontario's wood product manufacturers and value-added processors also from the perspective of the large non-residential markets that exist. These are important for all three product groupings selected for analysis in these reports.

Chart 4

U.S. Great Lakes Region Construction Industry Expenditures



Non-residential markets for wood trusses and structural engineered beams are particularly significant in the region.

In addition, the demand for panelized components and factory-built portable buildings (notably rental fleet structures) is buoyant. A wide range of millwork items is consumed.

Chart 4 shows that even though residential housing markets in the Great Lakes region are substantial, they are exceeded overall by non-residential markets.

Ontario's 'Top 4' Markets in the Great Lakes

Ontario's 'Top 4' Markets in the Great Lakes

Chart 5

Michigan

Michigan is Ontario's #1 export market in wood products[2], accounting for US$329 million in export earnings for the province in 2002. This does not include export earnings from wood furniture[3].

It should also be noted that not all of these products may have been consumed or further processed within the state. Several large scale reload centres exist for trans-shipment to other parts of the US.

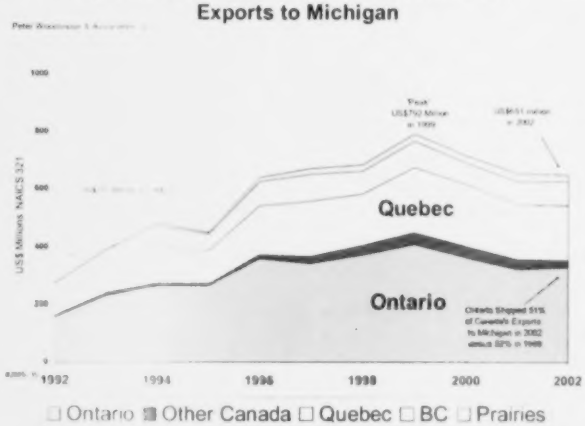
A substantial volume of wood products shipped into the state from Ontario is consumed within the state, notably softwood lumber and OSB which is used directly by the construction industry for framing, sheathing and other applications. In addition, Michigan has a wood products remanufacturing industry that sources some wood products from Ontario for further processing within the state.

This includes 2x3, 2x4 and 2x6 lumber, fingerjoint lumber and structural sheathing (e.g. OSB is used for I-Joist webs as well as in wall and roof sheathing and other applications).

Ontario is Canada's most important supplier of wood products to the state. In 2002, total Canadian wood product exports to Michigan were US$651 million, of which Ontario accounted for 51%. This was about the same percentage market share as in 1999, when Canada (and Ontario) achieved peak levels of export earnings from Michigan (Chart 6).

Chart 6

Ontario Dominates Canada's Wood Product Exports to Michigan



Quebec is Canada's second largest supplier of wood products to Michigan and, in 2002, earned nearly US$190 million in export earnings from the state, or about 29% of Canada's total.

BC and the Prairies supplied a further 17%.

The Michigan Market

This section provides a preliminary overview of the Michigan market in terms of demand drivers, such as population size, the size of the construction market for wood products, construction expenditures and residential housing starts. It also reviews trends in Ontario's exports to the state of Michigan of the three groups of value-added wood products that are the focus of this analysis.

[2] Data refer to NAICS 321
[3] i.e. NAICS 337 is excluded

Michigan's Construction Industry

Substantial consolidation has taken place throughout the US residential construction industry over the past several years. For the purposes of market analysis, and to illustrate the general structure of Michigan's construction industry, we provide below a summary of the most recently available Census data[4] for selected aspects of the industry.

Industry Revenue

Michigan is the 4th largest market within the Great Lakes region, in terms of the dollar value of business done by the construction industry as a whole. This includes all building, developing, general contracting[5], heavy construction[6] and special trades contractors[7]. In 1997, construction industry revenues were US$30.9 billion (Table 2). Michigan ranked #5 within the region in the number of construction establishments operating in the state (with average revenue of around US$1.2 million per establishment) in 1997.

Residential Construction Industry[8]

However, the state ranked #3 in terms of the number of firms involved in residential construction activity. There were 6,228 establishments operating in this business in 1997. Of these, 98% by number were concentrated in the single-family market.

On average, they were comparatively small scale (with mean annual revenues of US$850,000) but the Census data do not provide a reliable guide to average company size, or the level of consolidation that in occurring. There were fewer, but larger, firms in the multi-family construction sub-sector – reflecting the pattern typical throughout North America.

Table 2
Construction Industry Market Profile for U.S. Great Lakes Region

State	Construction Industry Revenues US$ BN	Approx. # of Establishments '000	# in Residential Construction Actual
Michigan	30.9	25	6,228
Ohio	33.6	26	5,653
Wisconsin	17.1	15	3,199
New York	44.7	36	7,858
Pennsylvania	34.1	28	6,608
Illinois	40.1	28	6,104
Indiana	19.6	16	3,925
Minnesota	18.5	13	2,738
U.S Great Lakes Region	**238.6**	**187**	**42,313**

Source: U S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

Michigan accounted for only 6% of the number of establishments in the multi-family construction sub-sector (New York State accounted for nearly 40%) in 1997 (Table 3).

[4] U.S. Census Bureau 1997 Census
[5] NAICS 233
[6] NAICS 234
[7] NAICS 235
[8] NAICS 2332

Table 3
Multi-Family Construction Market Profile for U.S. Great Lakes Region

State	Multi-Family Construction Establishment Revenues US$ MM	Approx. # of Establishments Actual	Average Revenues US$MM/Estab.
Michigan	335	146	2.3
Ohio	746	267	2.8
Wisconsin	303	239	1.3
New York	1243	1017	1.2
Pennsylvania	395	291	1.4
Illinois	716	400	1.8
Indiana	223	156	1.4
Minnesota	229	98	2.3
U.S Great Lakes Region	**4,190**	**2,614**	**1.6**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases

Average annual dollar sales per establishment were more than twice as large as those typical among establishments engaged in the state's single family housing construction sector. Wood product usage varies in different types of residential structures. Moreover, it varies between ownership housing and rental housing. Depending on the region, structural EWP use often tends to be more intensive, per square foot, in ownership than in rental housing.

Non-Residential Building Industry
This comprises all other building, development and general contracting activities not included above[9]. For example, it includes industrial, commercial and institutional buildings along with agricultural structures. These are a significant mark[illegible]r laminated beams, industrial trusses and various structural EWPs, including I-Joists.

We noted earlier in Chart 4 that for the US Great Lakes region as a whole, non-residential markets are larger in dollar value of annual expenditures than residential markets. But the proportion of commodity and value-added wood products absorbed by the major market segments differs markedly. Residential markets, comprising new starts and repair & remodeling expenditures, dominate overall consumption of wood products in both categories.

The success of *'Wood is Good'* and similar wood-use promotional programs, along with increased competitiveness of new types of structural EWP products (such as *TimberStrand*) in many non-residential construction activities, nevertheless appear in aggregate to have beneficial impacts on this consumption sector within the Great Lakes region.

However, price substitution rates vary within various price points within the sector, and in many cases, wood has to overcome traditional biases to other construction materials notable steel.

[9] i.e. the balance of NAICS 233

Table 4
Non-Residential Construction Market Profile for U.S. Great Lakes Region

State	Non-Residential Construction Establishment Revenues US$ MM	% of Region Total	Approx. # of Establishments Actual
Michigan	7342	13%	1601
Ohio	7667	13%	1919
Wisconsin	4250	7%	801
New York	12621	21%	3050
Pennsylvania	8109	14%	1628
Illinois	9094	16%	1828
Indiana	4277	7%	1042
Minnesota	5071	9%	912
U.S Great Lakes Region	**58,431**	**100%**	**12,781**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

Table 4 shows that establishments located in Michigan accounted for 13% of regional non-residential construction activity, based on the dollar value of business done in 1997, or over US$7.3 billion of spending activity in this sector throughout the Great Lakes region.

Residential Construction Activity

The total housing stock in the US Great Lakes region in the Year 2000 was nearly 34 million units (Table 5). Of these, over 4.2 million units, or 12%, were located in the state of Michigan.

Table 5
Housing Market Profiles for U.S. Great Lakes Region 2000

State	Housing Stock # units	Homeownership Rate %	Median Value Owner-Occupied Units US$
Michigan	4.2 million	73.8%	$115,600
Ohio	4.8 million	69.1%	$103,700
Wisconsin	2.3 million	68.4%	$112,200
New York	7.7 million	53.0%	$148,700
Pennsylvania	5.3 million	71.3%	$97,000
Illinois	4.9 million	67.3%	$130,800
Indiana	2.5 million	71.4%	$94,300
Minnesota	2.1 million	74.6%	$122,400
U.S Great Lakes Region	**33.8 million**	USA av. 66.2%	USA av. $119,600

Source: U.S Census Bureau 2000 data. Note state and region totals are rounded in some cases.

Michigan has a high homeownership rate. In the Year 2000, this was 73.8% and well above the national average of 66.2% (68% in 2002). At US$115,600 per unit, the median value of owner-occupied housing units was about 3% below the national average (Table 5).

Chart 7

Chart 7 shows new residential construction activity measured by permit levels.

The overall trend is similar to that for the region as a whole, with a peak however in 1999, and some indications of reduced construction activity in the past few years.

There were 49,000 permits in 2002, representing about 13.5% of total activity for the region.

Exports of Wood Products from Canada to Michigan

Chart 8

The state of Michigan is one of Canada's most important export markets. In 2002, Michigan accounted for US$47.6 Billion of Canada's all industries exports, or a whopping $1 in every $5 of Canada's all industries exports to the United States.

From 1992, Canada's all industries exports to Michigan more than doubled from US$104 Billion to a peak of US$278 Billion by the year 2000. Some of this trade can be attributed to the Auto Pact, but Canada's exports of other merchandise products, including wood products, also increased substantially over this period.

The recessionary economic conditions of 2001 and 2002 witnessed a decline in Canada's all industries exports to the United States but, over this period, the value of all industries export sales from Canada to Michigan remained remarkably stable. Nevertheless, as a result most likely of NAFTA trade expansion, US market areas other than Michigan accounted for a growing proportion of Canada's all industries exports.

In 1994, exports to Michigan had accounted for a record of nearly 29% of Canada's all industries exports to the United States. By the period 1998 to 2002, this had declined to a fairly consistent 20-22% of the total, as shown in Table 6.

Table 6
Canada's All Industries Exports to Michigan as a Percent of All Industries Exports to the United States

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
% of USA	24%	27%	29%	27%	25%	24%	22%	22%	21%	20%	22%

Peter Woodbridge & Associates Ltd.

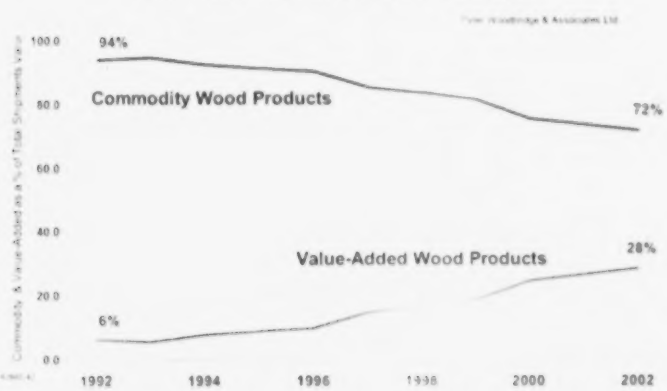
Exports of Wood Products from Ontario to Michigan

Chart 9

Chart 9 shows that while the overall value of Ontario's export sales of all wood products to Michigan peaked in 1999 with earnings of US $409 million, the proportion of value-added wood products is increasing quite rapidly

These trends are better reflected in Chart 10 which shows that in 1992 commodity wood products accounted for 94% of Ontario's total shipments by value to Michigan. By 2002, this percentage had declined to 72%, with value-added wood products accounting for 28%, up from 6% in 1992.

Chart 10



Charts 11 and 12 show additional details of this trade

Chart 11

Total Wood Products: NAICS 321
Canadian Suppliers to Michigan
2002

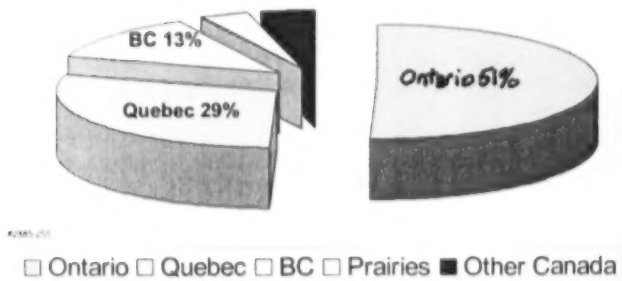
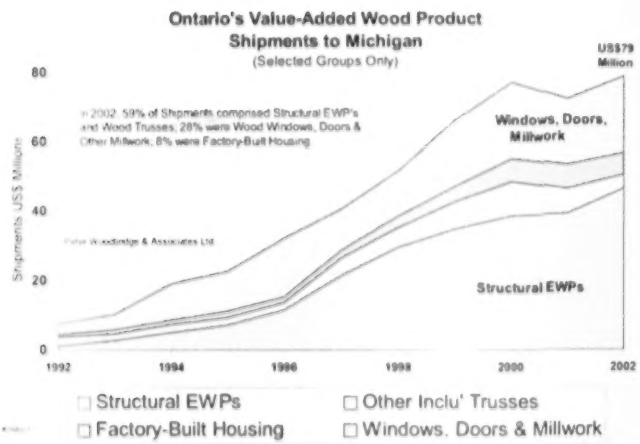


Chart 12



Ohio

Chart 13

Ohio is Ontario's 2nd most important market for wood products in the US Great Lakes region. In 2002, the province of Ontario earned US$ 136 million from sales of various wood products to the state.

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Industry Revenue

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Illinois	40.1	28	6,104
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U.S Great Lakes Region	**238.6**	**187**	**42,313**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

[10] U.S. Census Bureau 1997 Census

Non-Residential Construction

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Residential Construction Activity

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Source: U.S Census Bureau 2000 data. Note state and region totals are rounded in some cases

Ohio has a higher than average homeownership rate. In the Year 2000, this was 69.1% and well above the national average of 66.2% (68% in 2002). At US$103,700 per unit, the median value of owner-occupied housing units was well below the national average (Table 9).

Chart 14

In Ohio, the pattern of new construction activity reflects the regional situation with a rising trend for most of the 1990's.

Chart 14 shows a peak in 1999 and an overall activity level based on permits of 52,000 units in 2002. Over the past 10-15 years, Ohio has maintained its share of regional starts at around 14% of the total.

Analysis of total wood product exports from Canada to Ohio (Chart 15) shows that Ontario accounted for 31% of the total in 2002; with Quebec taking the largest overall share at 34%. BC supplied 20% of Canada's wood product exports to the state in 2002.

Chart 15

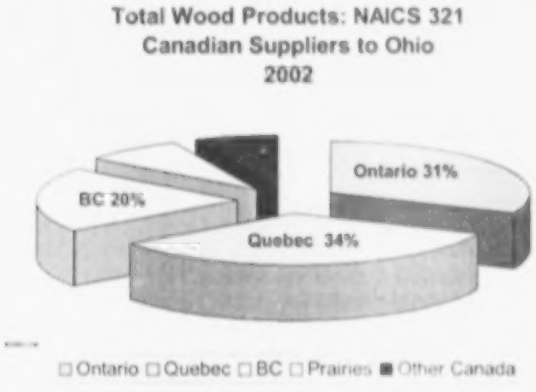

Chart 16

Wisconsin

The state is Ontario's 3rd most important export market in the US Great Lakes market region.

For the purposes of market analysis, and to illustrate the general structure of Ohio's construction industry, we provide below a summary of the most recently available Census data[11] for selected aspects of the industry (Tables 10 & 11).

Industry Revenue

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[11] U.S. Census Bureau. 1997 Census

Table 12
Non-Residential Construction Market Profile for U.S. Great Lakes Region

State	Non-Residential Construction Establishment Revenues US$ MM	% of Region Total	Approx. # of Establishments Actual
Michigan	7342	13%	1601
Ohio	7667	13%	1919
Wisconsin	4250	7%	801
New York	12621	21%	3050
Pennsylvania	8109	14%	1628
Illinois	9094	16%	1828
Indiana	4277	7%	1042
Minnesota	5071	9%	912
U.S Great Lakes Region	**58,431**	**100%**	**12,781**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

Table 12 shows that establishments located in Wisconsin accounted for 7% of regional non-residential construction activity, based on the dollar value of business done in 1997, or over US$4.3 billion of spending activity in this sector throughout the Great Lakes region.

Residential Construction Activity

The total housing stock in the US Great Lakes region in the Year 2000 was nearly 34 million units (Table 13). Of these, over 2.3 million units were located in the state of Wisconsin.

Table 13
Housing Market Profiles for U.S. Great Lakes Region 2000

State	Housing Stock # units	Homeownership Rate %	Median Value Owner-Occupied Units US$
Michigan	4.2 million	73.8%	$115,600
Ohio	4.8 million	69.1%	$103,700
Wisconsin	2.3 million	68.4%	$112,200
New York	7.7 million	53.0%	$148,700
Pennsylvania	5.3 million	71.3%	$97,000
Illinois	4.9 million	67.3%	$130,800
Indiana	2.5 million	71.4%	$94,300
Minnesota	2.1 million	74.6%	$122,400
U.S Great Lakes Region	**33.8 million**	USA av. 66.2%	USA av. $119,600

Source: U.S Census Bureau 2000 data. Note state and region totals are rounded in some cases.

Wisconsin has an average homeownership rate. In the Year 2000, this was 68.4% and just above the national average of 66.2% (68% in 2002). At US$112,200 per unit, the median value of owner-occupied housing units was below the national average (Table 13).

Chart 17

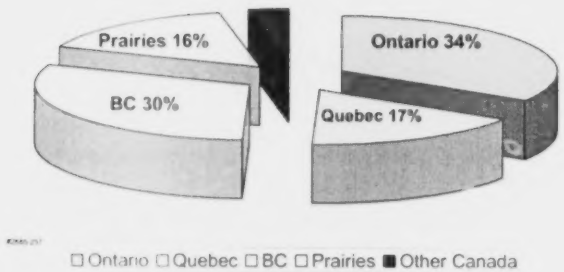
New construction activity, as measured by permit levels, shows that construction spending has been on a gently rising overall trend in Wisconsin for most of the past twenty years (Chart 17).

The state's share of regional activity, however, has remained relatively constant. In 2002, there were 38,000 housing units (permits) representing just over 10% of the region's overall activity.

Suppliers of wood products from Canada include Ontario, with 34% of national export earnings to Wisconsin in 2002, Quebec with 17%; BC at 30% and the Prairies at 16% (Chart 18).

Chart 18

Total Wood Products:NAICS 321
Canadian Suppliers to Wisconsin
2002



New York

Chart 19

New York is Ontario's 4th most important market for wood products in the US Great Lakes area, but is a very important customer for Ontario's millwork, as noted earlier.

New York Construction Industry

Substantial consolidation has taken place throughout the US residential construction industry in t he past several years. For the purposes of market analysis, and to illustrate the general structure of New York's construction industry, we provide below a summary of the most recently available Census data[12] for selected aspects of the industry (Tables 14-16).

Industry Revenue

Table 14

Construction Industry Market Profile for U.S. Great Lakes Region

State	Construction Industry Revenues US$ BN	Approx. # of Establishments '000	# in Residential Construction Actual
Michigan	30.9	25	6,228
Ohio	33.6	26	5,653
Wisconsin	17.1	15	3,199
New York	44.7	36	7,858
Pennsylvania	34.1	28	6,608
Illinois	40.1	28	6,104
Indiana	19.6	16	3,925
Minnesota	18.5	13	2,738
U.S Great Lakes Region	**238.6**	**187**	**42,313**

Source: U.S Census Bureau 1997 data Note state and region totals are rounded in some cases.

Table 14 shows that construction establishments located in the state had dollar sales totaling nearly US $ 45 Billion in the year 2000. There were over 36,000 establishments within the overall construction industry and 7,858 establishments in residential construction alone.

Multi-family housing starts are comparatively higher in New York state when measured against the regional average. Table 15 shows that of the 7,858 establishments involved in residential construction within the state, about 13% were multi-family constructors.

[12] U.S. Census Bureau 1997 Census

Non-Residential Construction

Table 15
Multi-Family Construction Market Profile for U.S. Great Lakes Region

State	Multi-Family Construction Establishment Revenues US$ MM	Approx. # of Establishments Actual	Average Revenues US$MM/Estab.
Michigan	335	146	2.3
Ohio	746	267	2.8
Wisconsin	303	239	1.3
New York	1243	1017	1.2
Pennsylvania	395	291	1.4
Illinois	716	400	1.8
Indiana	223	156	1.4
Minnesota	229	98	2.3
U.S Great Lakes Region	**4,190**	**2,614**	**1.6**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

Table 16
Non-Residential Construction Market Profile for U.S. Great Lakes Region

State	Non-Residential Construction Establishment Revenues US$ MM	% of Region Total	Approx. # of Establishments Actual
Michigan	7342	13%	1601
Ohio	7667	13%	1919
Wisconsin	4250	7%	801
New York	12621	21%	3050
Pennsylvania	8109	14%	1628
Illinois	9094	16%	1828
Indiana	4277	7%	1042
Minnesota	5071	9%	912
U.S Great Lakes Region	**58,431**	**100%**	**12,781**

Source: U.S Census Bureau 1997 data. Note state and region totals are rounded in some cases.

Table 16 shows that establishments located in New York accounted for 21% of regional non-residential construction activity, based on the dollar value of business done in 1997, or over US$12.6 billion of spending activity in this sector throughout the Great Lakes region.

Residential Construction Activity

The total housing stock in the US Great Lakes region in the Year 2000 was nearly 34 million units (Table 17). Of these, over 7.7 million units, or 21%, were located in the state of New York.

Table 17
Housing Market Profiles for U.S. Great Lakes Region 2000

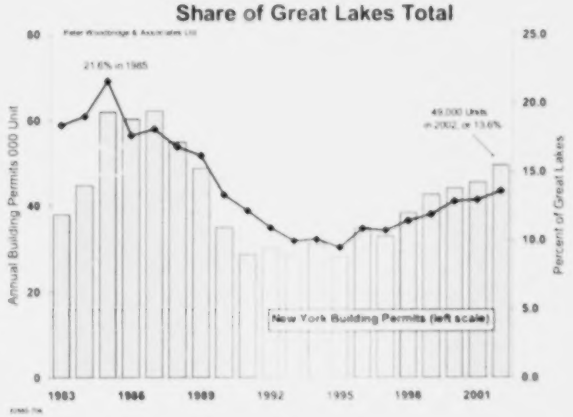
State	Housing Stock # units	Homeownership Rate %	Median Value Owner-Occupied Units US$
Michigan	4.2 million	73.8%	$115,600
Ohio	4.8 million	69.1%	$103,700
Wisconsin	2.3 million	68.4%	$112,200
New York	7.7 million	53.0%	$148,700
Pennsylvania	5.3 million	71.3%	$97,000
Illinois	4.9 million	67.3%	$130,800
Indiana	2.5 million	71.4%	$94,300
Minnesota	2.1 million	74.6%	$122,400
U.S Great Lakes Region	**33.8 million**	USA av. 66.2%	USA av. $119,600

Source: U.S Census Bureau 2000 data. Note state and region totals are rounded in some cases

New York has a low homeownership rate. In the Year 2000, this was 53% and well below the national average of 66.2% (68% in 2002). At US$148,700 per unit, however, the median value of owner-occupied housing units was well above the national average (Table 17).

Chart 20

New York Building Permits & Share of Great Lakes Total



Levels of permitting activity in the state of New York show a dramatic decline in new home market construction during the 1980's (Chart 20).

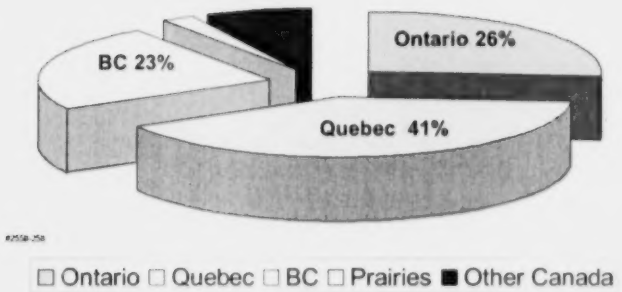
Even though levels recovered during the 1990's, the state has not witnessed the much higher levels of activity that prevailed in the early 1980's.

In the 1980's, annual permitting levels equivalent to about 60,000 units of starts were common. These declined to annual rates of only 30,000 units by the early 1990's. In 2002, there were 49,000 units for which permits were taken out, or about 13.6% of the regional total.

Canadian suppliers of wood products to the state of New York comprise Quebec (41% of all wood product shipments in 2002); Ontario (26%) and BC (23%). (Chart 21)

Chart 21

Total Wood Products: NAICS 321
Canadian Suppliers to New York
2002



Export Market Benchmarks

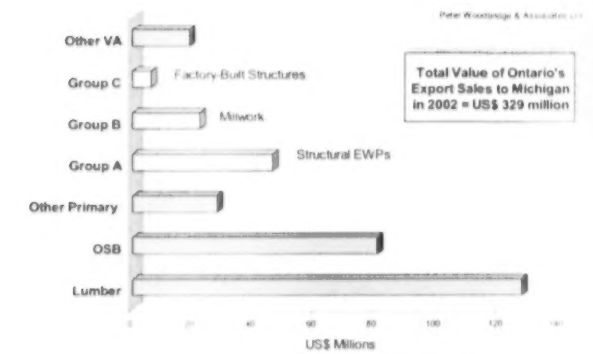
Export Market Benchmarks

Michigan

Chart 22

Chart 23

Ontario's Wood Products Exports to Michigan 2002



	Lumber	OSB	Other Primary	Group A	Group B	Group C	Other VA
Exports to Michigan	127.4	80.6	27.8	46.3	22.1	6.1	18.7

Chart 23 shows that 72% of Ontario's exports to Michigan by value in 2002 were primary wood products, and 28% were value-added. Of its value-added exports, nearly half were structural EWP's and 24% was millwork. Factory-built housing accounted for 7% and the balance was comprised of various other wood products.

US Census Bureau data for 1997 show the value of shipments of principal value-added products produced in Michigan was as follows: (i) Trusses, US$211 million; (ii) Other Millwork, US$105 million; and (iii) Prefabricated Wood Buildings, US$132 million.

Ohio

Chart 24

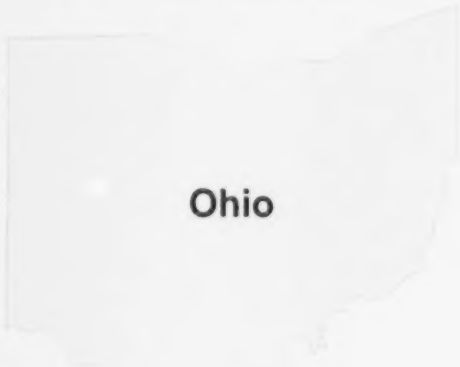


Chart 25

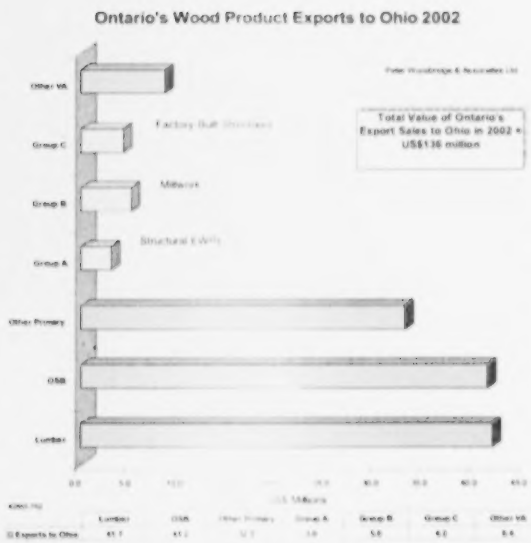


Chart 25 shows that 85% of Ontario's exports to Ohio by value in 2002 were primary wood products, and 15% were value-added. Ontario's value-added exports were nearly equally spilt between structural EWPs, millwork and factory-built housing. The balance was comprised of various other wood products.

US Census Bureau data for 1997 show the value of shipments of principal value-added products produced in Ohio was as follows: (i) Trusses, US$188 million; (ii) Wood Windows & Doors, US$211 million; (iii) Other Millwork, US$142 million; (iv) HUD Code Manufactured Housing, US$109 million; and (v) Prefabricated Wood Buildings, US$91 million.

Wisconsin

Chart 26

Chart 27

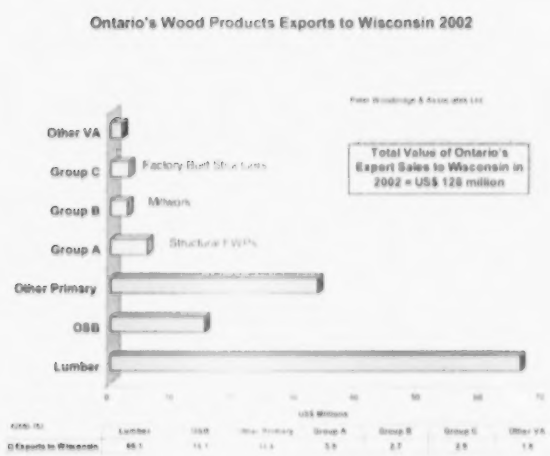


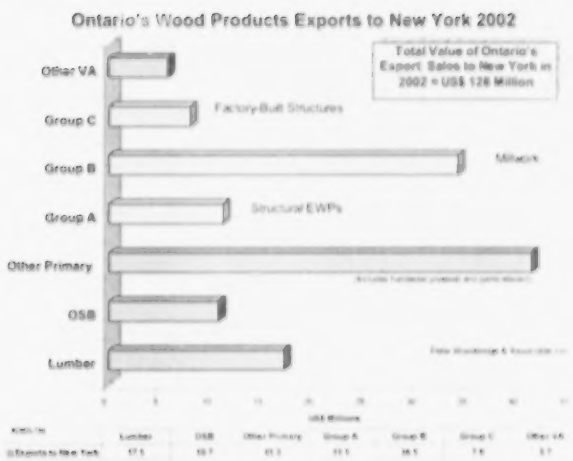
Chart 27 shows that 90% of Ontario's exports to Wisconsin by value in 2002 were primary wood products, and 10% were value-added. Of its value-added exports, nearly 45% was structural EWP's. About 20% was millwork. Factory-built housing accounted for 22% and the balance was comprised of various other wood products.

US Census Bureau data for 1997 show the value of shipments of principal value-added products produced in Wisconsin was as follows: (i) Wood Windows and Doors, US$1.48 billion (i.e. the largest producing region in the US in 1997); (ii) Other Millwork, US$158 million; (iii) HUD Code Manufactured Housing, US$122 million; and (iv) Prefabricated Wood Buildings, US$305 million.

New York

Chart 28 New York

Chart 29



New York is one of Ontario's strongest value-added markets in the Great Lakes region in terms of the ratio of its value-added exports to primary wood product exports. In 2002, only 54% of Ontario's wood product exports to New York were primary products, while 46% were value-added (Chart 29). By far the largest value-added product exported (27% of total exports by value) was millwork, comprising both windows and doors and other millwork. New York was Ontario's second largest regional market for structural EWPs.

US Census Bureau data indicate that in 1997 the value of shipments of principal value-added products produced in New York was as follows: (i) Truss Manufacturing, US$47 million; (ii) Wood Windows and Doors, US$79 million; and (iii) Other Millwork, US$75 million.

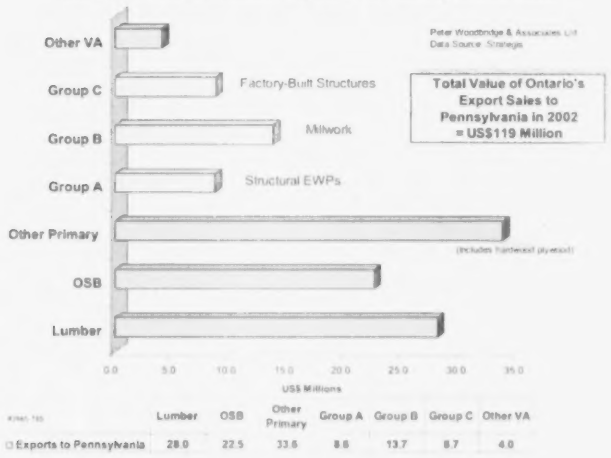
LIVING LEGACY TRUST

Pennsylvania

Chart 30 **Pennsylvania**

Chart 31

Ontario's Wood Product Exports to Pennsylvania 2002



	Lumber	OSB	Other Primary	Group A	Group B	Group C	Other VA
Exports to Pennsylvania	28.0	22.5	33.6	8.6	13.7	8.7	4.0

Pennsylvania is Ontario's largest market for hardwood plywood in the US Great lakes region and is a significant market for OSB. Overall, primary wood product exports account for nearly 61% of the province s wood product shipments into the state, while value-added exports account for 39% of the total (Chart 31). Pennsylvania is Ontario's largest regional market for pre-cut and panelized buildings and is a significant market for the province's structural EWPs to the region.

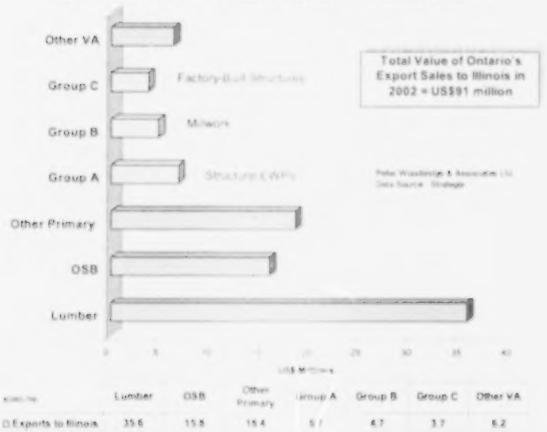
US Census Bureau data indicate that in 1997 the value of shipments of principal value-added products produced in Pennsylvania was as follows: (i) Wood Windows and Doors, US$246 million; (ii) Other Millwork, US$117 million, (iii) HUD Code Manufactured Housing, US$451 million; and (iv) Prefabricated Wood Buildings, US$402 million.

Illinois

Chart 32 Illinois

Chart 33

Ontario's Wood Product Exports to Illinois 2002



	Lumber	OSB	Other Primary	Group A	Group B	Group C	Other VA
Exports to Illinois	35.6	15.8	15.4	5.7	4.7	3.7	8.2

Chart 33 shows that 77% of Ontario's exports to Illinois by value in 2002 were primary wood products, and 23% were value-added. Of its value-added exports, nearly 32% was structural EWP's. About 22% was millwork. Factory-built housing accounted for 17% and the balance was comprised of various other wood products.

US Census Bureau data indicate that in 1997 the value of shipments of principal value-added products produced in Illinois was as follows: (i) Truss Manufacturing, US$144 million; (ii) Wood Windows and Doors, US$267 million; and (iii) Other Millwork, US$78 million.

Indiana

Chart 34

Chart 35

Among the Great Lakes states, Indiana ranked as the smallest market (#8) for Ontario's value-added wood product exports in 2002. Total value-added exports to the state were US$12 million compared with US$76 million of exports in primary wood products, notably OSB (Chart 35).

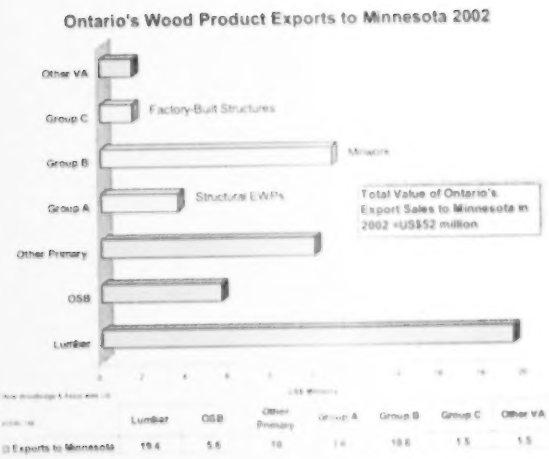
Indiana is well known for its prominent place in HUD Code manufactured home production. In 1997, US Census data indicate that the state shipped over US$1.25 billion of these homes. Indiana also shipped US$140 million of pre-cut and modular homes. It is a sizeable producer of wood windows and doors (US$243 million shipped) and of other millwork (US$137 million shipped).

Minnesota

Chart 36

Minnesota

Chart 37



Minnesota is Ontario's smallest overall market in the Great Lakes region, accounting for total export sales of just over US$52 million in 2002. Of this, 67% by value comprised primary wood products, notably eastern SPF lumber. Value-added wood products, notably millwork, accounted for the balance (Chart 37).

US Census data confirm that Minnesota is a major producing region for wood windows and doors, and ranked #2 nationally in 1997 with over US$1.37 billion in shipments (Wisconsin was #1). The state also has a modest sized 'other millwork' industry, shipping US$45 million in 1997. HUD Code manufacturing is a significant activity, with 1997 shipments valued at US$115 million. Pre-cut and modular buildings shipments were US$85 million during 1997, or about twice the size of Ontario's shipments to the region.

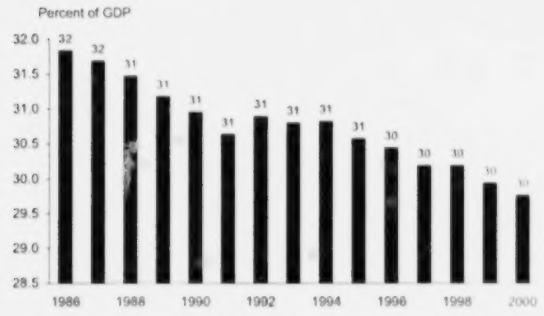
Economic Profiles of the Great Lakes States

Economic Profiles of the Great Lakes States

The Great Lakes states represent a powerful component of the overall U.S. economy. With a population of 83 million persons in 2002, the region encompasses the traditional American manufacturing heartland in the Midwest and the U.S. financial capital in New York. The population of the Great Lakes states is expected to rise by over 10 million persons by 2020. Although the region remains an important producer and consumer in the U.S. economy, the relative economic importance of the region has declined somewhat in the past decade or so (see Chart 38). However, the region remains an important trading partner with Canada, accounting for US$105.6 billion in exports from Canada in 2001, 84 percent of all Canadian exports. (Note that all dollar figures listed in this section are in American currency.)

Chart 38

Great Lake States Economy Relative to U.S. Economy, 1986-2000



Source: Clayton Research based on data from Bureau of Economic Analysis

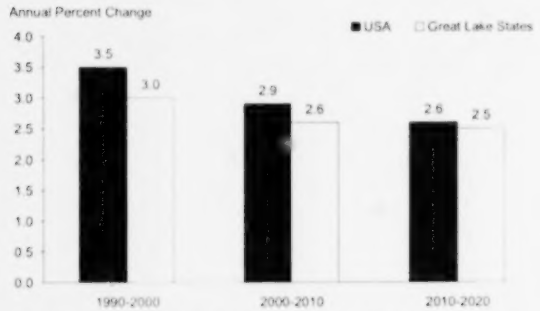
The U.S. Great Lakes region has an average personal income of about $29,300 per capita, which is about 3 percent higher than the national average. State and local government revenues and expenditures are just under $6,000 per capita in the region, as compared to about $5,500 for the national average.

The challenge that this region faces both in terms of economics and demographics over the next two decades is retaining its share of growth relative to emerging growth regions such as the U.S. south west:

- In terms of economic transformation, several trends have affected the U.S. Great Lakes states in the past two decades, and remain important in the forecast. Through the 1990's, the U.S. Midwest, a major component of the Great Lakes states, saw declining demand for goods produced through traditional heavy manufacturing. Manufacturing's share of economic output and jobs declined steadily in favour of value-added service sector employment across the U.S. and this trend affected Midwest economies in particular. At the same time, however, centres such as Chicago and New York City continued to evolve from concentration and growth in the financial services sector.
- In terms of demographics, population growth in the U.S. Great Lakes region has lagged behind the national average for some time, as slower-growth economies fail to attract their fair share of international migration, and as domestic retirees continue to migrate toward more southern and south-western destinations.

Chart 39

Gross Domestic Product, U.S. and Great Lake States, 1990-2020



Source: Clayton Research based on data from Bureau of Economic Analysis

Through the forecast period, economic growth across the U.S. Great Lakes region will slow in sympathy with a long-term slowing trend at the national level, but will lag somewhat behind the rest of the nation (see Chart 39). The "gap" between regional and national growth, however, is expected to narrow through the forecast period.

Construction in the U.S. Great Lakes region is expected to be robust through the forecast period, however, based on a combination of new residential and non-residential growth, and replacement of buildings and infrastructure. Construction activity is expected to total $121 billion per year through 2000-2010, rising to $138 billion per year thereafter.

Some of the growth opportunities from construction activity will come from housing, where housing starts will rise through the period from an annual average of 340,000 units per year in the 1990's to close to 375,000 units per year by 2020. These trends include a shift away from single family site-built construction and toward multi-family and manufactured housing.

In addition, employment growth in the region averaging 0.8-0.9 percent per year over the forecast period, along with replacement space, will create demand for about 210 million square feet of construction annually throughout the region through to 2010, moderating to about 190 million per year thereafter.

The remainder of this section details the economic prospects of the eight constituent states within the U.S. Great Lakes region.

Michigan

The population of Michigan in 2002 is estimated at 10,050,000 persons, the 8th largest in the nation. The population of Michigan grew by about 0.6 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent) and about the same as Michigan's average growth from 1990-2000.

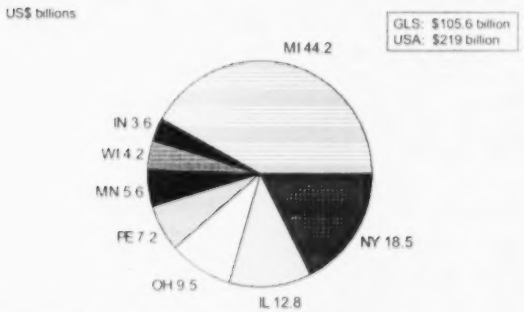
In 2001, Michigan had a per capita personal income of $29,788; ranked 19th in the United States and 2 percent below the national average. The 2001 PCPI reflected an increase of 0.9 percent from 2000, significantly slower than the national change of 2.4 percent.

Earnings of persons employed in Michigan decreased 0.8 percent between 2000 and 2001, in part reflecting the weak employment situation during this period. The service sector, as in most states, represents the largest source of income for Michigan wage earners at 26.0 percent of earnings. Durable goods manufacturing, (21.8 percent) and state and local government (11.8 percent) follow. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing, which decreased 8.4 percent; the fastest was finance, insurance, and real estate (5.9 percent of earnings in 2001), which increased 6.0 percent.

Out of all the Great Lakes states, Michigan imports the highest dollar value of goods from Canada, totalling US$44.2 billion in 2001 (see Chart 40). This is 42 percent of the regional total, and 20 percent of the national total.

Chart 40

Imports from Canada, 2001



Source: Clayton Research based on data from the Industry Canada

Michigan falls about in the middle in terms of population and forecasted population growth, yet it is expected to have the second highest number of housing starts in the 2000-2010 period, at an average of 53,300 units per year, and the highest number of prefabricated and manufactured homes, at 17,000 units per year, or almost one third of the total starts.

Although Michigan's unemployment rate is currently in the 7.5 percent range – highest amongst the Great Lakes states, one of the state's challenges over the next two decades will be labour shortages. Anticipated economic growth of about 2.6 percent in the next decade will generate opportunities for about half a million new jobs. However, with the aging of the population, relatively low population growth, and weak migration trends, the greatest risk to the economy remains the possibility of not being able to fill those positions. In the end, these trends will place

more upward pressure on wages and income in Michigan, which may influence the relative migration situation.

Ohio

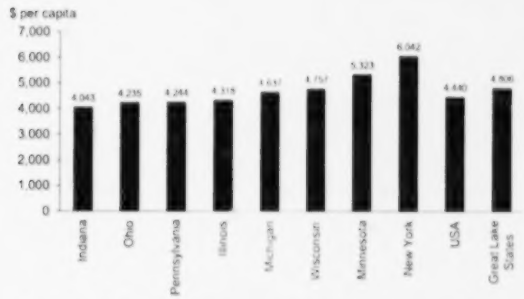
The population of Ohio in 2002 is estimated at 11,420,000 persons, the 7th largest in the nation. The population of Ohio grew by a scant 0.3 percent per year between 2000 and 2002 – significantly slower than the nation (1.2 percent) and state's average growth from 1990 to 2000 (0.5 percent).

The recent slow down in population growth is due in part to weak labour markets in recent years, but also to the aging demographic structure in Ohio. With anticipated cyclical improvements in the employment situation, we expect a modest improvement in population growth through the remainder of the decade for an overall average annual rate of 0.4 percent.

In 2001, Ohio had a per capita personal income of $28,816. This was ranked 25th in the United States and was 5 percent below the national average. The 2001 per capita income in Ohio expanded 2.2 percent from 2000, about the same as the national average growth in income.

Chart 41

Per Capita Taxation, U.S. and Great Lake States, 2000



Source: Projections by Clayton Research based on data from Bureau of Economic Analysis

Gross State Product in Ohio advanced at a real rate of about 2.8 percent per year during the 1990's – the fourth fastest among the Great Lakes states. GSP is expected to advance at about 2.3 and 2.2 percent in the next two decades, respectively.

There are many encouraging growth factors in Ohio, including its relatively low level of personal tax burden. In 2000, the Ohio taxpayers faced the second lowest tax burden in the region – about 5 percent below the national and 12 percent below the regional average (see Chart 41).

The largest industries in 2001 were services, 26.6 percent of earnings; durable goods manufacturing, 15.2 percent; and state and local government, 12.2 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing, which decreased 6.8 percent; the fastest was finance, insurance, and real estate (7.3 percent of earnings in 2001), which increased 6.2 percent.

Growth factors in Ohio include a relatively small government infrastructure. State and local revenues and expenditures are just over $5,000 per capita, as compared to close to $6,000 for the U.S. Great Lakes region as a whole.

Wisconsin

The population of Wisconsin in 2002 was estimated at 5,450,000 persons, the 20th largest state in the nation. The state's population advanced by 0.7 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent) and the state's average growth from 1990 to 2000 (0.9 percent).

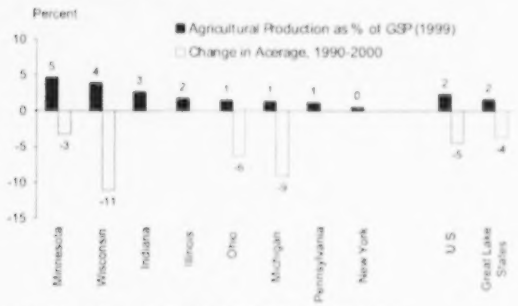
In 2001, Wisconsin had a per capita personal income of $29,270, 21st in the United States, and was 4 percent below the national average. Income growth in Wisconsin of 2.8 percent was slightly ahead of the national average. From 2000 to 2001, total personal income from wage and earnings increased 2.3 percent; dividends, interest, and rent increased 2.3 percent; and transfer payments increased 10.8 percent.

The largest industries in 2001 were services, 24.9 percent of earnings; durable goods manufacturing, 14.8 percent; and state and local government, 12.9 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing, which decreased 5.9 percent; the fastest was state and local government, which increased 7.9 percent.

The largest sub-sectors by employment are health services, education, hospitality and business services. These are also the industries that are expected to add the most jobs to the state economy over the 2000-2010 period. Traditionally, Wisconsin has been known as an agricultural state, with more than twice the number of farms per capita as the national average. In 1999, agriculture contributed about 4 percent toward the state economy – about twice the national and regional averages (see Chart 42). But the state saw a decline in both farms (down 4 percent) and acreages (down 11 percent) through the 1990's.

Chart 42

Agricultural Contribution to the Economy



Source: Clayton Research based on data from U.S. Census Bureau

During the 1990-2000 period, Wisconsin's total gross state product grew at 3.7 percent, while growth in the construction sector grew at 3.4 percent. It is expected to have the second highest growth rate of gross state product in the region at 3.0 percent, and the only state in the region other than Minnesota to have gross state product growth higher than the national GDP growth rate. Construction gross state product is anticipated to come in at around $8.1 billion by 2010 and around $9.2 billion by 2020. While this is still a significant increase from the $6.9 billion spent in the 2000, it remains the lowest amongst all the Great Lakes states.

The "Badger State" has the second smallest population of all the Great Lakes states. Thus, it is not surprising that it is also expecting to post the second lowest population growth (362,000 over

2000-2010) and the lowest household growth (24,000 units over 2000-2010). However, in terms of annual growth rates, Wisconsin's population is expected to grow by 0.7 percent, slightly higher than the regional average of 0.6 percent through the next decade. Relative to its neighbours, the state is expected to post particularly strong growth in the age 55+ cohort.

New York

The population in New York state in 2002 is estimated at 19,160,000 persons, the 3rd largest state in the nation. The population of New York grew by 0.5 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent), but about the same as the state's average growth from 1990 to 2000.

Economic growth in New York is expected to be only marginally above the regional average, and still below the national average throughout the 2000-2010 period. But in the long term, we anticipate that gross state product growth in New York will lead the other Great Lakes states. This is due not so much to a surge in growth in New York, as we forecast a rate of 2.7 percent in the 2000-2010 period and 2.8 percent in the 2010-2020 period, but rather strong fundamentals during a period when other high performers lose some ground. In the long term, growth will be good to New York, which had a generally sluggish economic record through the 1990's.

Construction activity will be an important contributor to economic growth through the forecast period. Both housing and non-residential activity will be fuelled by improved population and household growth before the end of the decade – a big turnaround from negative growth in the 1990-2000 period.

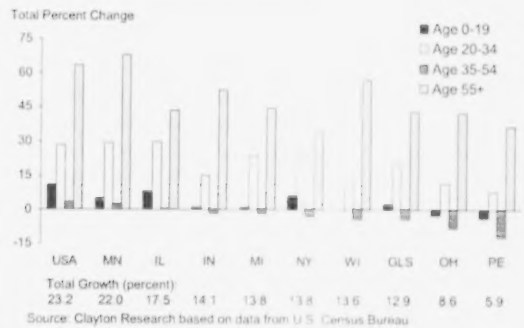
In 2001, New York had a per capita personal income of $36,019, 5th in the United States and was 18 percent above the national average. Per capita income growth averaged 2.9 percent from 2000 to 2001, somewhat above the national average of 2.4 percent.

In 2001, based on labour earnings, New York represented about 8 percent of the national economy. The largest industries in 2001 were services, 31.1 percent of earnings; finance, insurance, and real estate, 23.2 percent; and state and local government, 11.6 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was wholesale trade (5.2 percent of earnings in 2001), which decreased 2.2 percent; the fastest was services, which increased 3.4 percent.

"The Empire State" is expected to have the largest population growth during the 2000-2010 period at about 1.3 million persons. This accounts for almost one quarter of the region's total growth. New York will add an additional 1.3 million persons in the following 10 years. In 2000, New York had about 3.8 million people in the prime first-time homebuyer's age range of 20-34 (see Chart 43) – among the more well balanced growth patterns among the Great Lakes states. This cohort is expected to grow by about 467,000 people by 2010, and another 569,000 people by 2020.

Chart 43

Population Growth, 2000-2020



Source: Clayton Research based on data from U.S. Census Bureau

This expected population boom will spill over into the construction sector, as New York is the top-ranking state in the region in terms of construction gross state product.

While it may not be surprising that New York's household growth in apartment dwellings is higher than the regional or national average, at the expense of single-family dwellings, New York is also anticipated to be a large growth market for manufactured homes too. In the 2000-2010 period, 7.8 percent of household growth will likely occur in manufactured homes. This is much higher than the regional average of 4.6 percent, but still lower than the national average of 12.2 percent. Combining New York's high percentage of households going into mobile homes with the fact that it has the highest number of new households means that New York is expected to have the largest number of new households in mobile homes.

Pennsylvania

The population of Pennsylvania in 2002 is estimated at 12,340,000 persons, the 6th largest state in the nation. The population of Pennsylvania grew by a scant 0.2 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent), but about the same as the state's average growth from 1990 to 2000 (0.3 percent).

In 2001, Pennsylvania had a per capita personal income of $30,720. This per capita income ranked 16th in the United States and was about on par with the national average. Income growth averaged 3.4 percent in 2001 – a full percentage point faster than the national average.

The Pennsylvania economy is highly dependent on service sector employment for its income and economic base (31.4 percent of earnings). After that, the economy is composed of durable goods manufacturing, 10.0 percent, and state and local government, 9.7 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing, which decreased 4.4 percent; the fastest was construction (6.0 percent of earnings in 2001), which increased 5.5 percent.

Employment growth has been sluggish in Pennsylvania, in line with the demographic situation. Through the 1990's, job creation averaged about 1 percent per year – about half the rate of the nation as a whole. The prognosis for employment growth is not much brighter – only about 0.5 percent per year through the next two decades. Slower employment growth is linked to slow population growth, which in turn is related to trends in recent years toward out-of state migration, particularly amongst retired persons.

The "Keystone State" is also forecasted to have the lowest gross state product growth rate, construction product growth rate and population growth in the region. In fact, it has the lowest population growth rate in the first-time homebuyers' cohort and the largest rates of decline in youngsters and in the move-up cohort.

Illinois

The population of Illinois in 2002 is estimated at 12,600,000 persons, the 5th largest in the nation. The population of Illinois grew by about 0.7 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent) and about the same as the state's average growth from 1990-2000.

In 2001, Illinois had a per capita personal income of $33,023; 10th in the United States and 8 percent above the national average. The 2001 per capita income reflected an increase of 2.4 percent from 2000 – about the same as across the nation. Components of income include earnings, investments and transfers. From 2000 to 2001, earnings increased 2.0 percent; dividends, interest, and rent increased 3.1 percent; and transfer payments increased 7.4 percent.

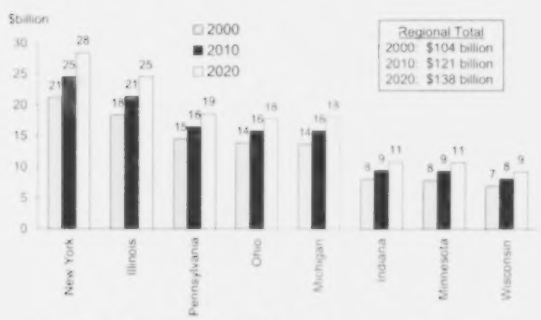
Illinois' largest industries, in terms of income contribution in 2001, were services, 30.2 percent of earnings; finance, insurance, and real estate, 10.8 percent; and state and local government, 10.7 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing (9.7 percent of earnings in 2001), which decreased 5.2 percent; the fastest was state and local government, which increased 5.9 percent.

Illinois's Governor recently passed the first balanced budget in several years, which is good news on the fiscal front, given that Illinois has a $5 billion deficit and a $35 billion pension shortfall – the largest of any U.S. state.

Reasonable population growth, favourable demographics, and continued urbanization within the state are all factors behind a relatively buoyant construction outlook in Illinois. Illinois is expected to have the second highest construction gross state product in the region in each of 2010 ($21 billion) and 2020 ($25 billion), following New York (see Chart 44). Both active housing starts (about 50,000 per year through to 2010) and about 40 million square feet of ICI construction per year are major contributors to the overall construction outlook.

Chart 44

Construction Gross State Product, 2000-2020



Source: Clayton Research based on data from Bureau of Economic Analysis

"The Prairie State" is expected to grow by just over one million persons in the 2000-2010 period, and by another million in the 2010-2020 period. Illinois is expected to show the highest growth rate of first-time homebuyers (persons in the age 20-34 cohort) with their numbers growing by almost one third over the 20-year period.

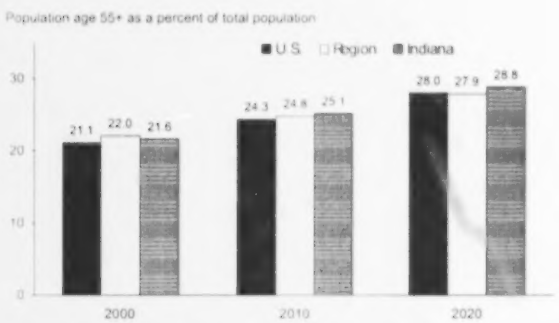
Indiana

The population of Indiana in 2002 is estimated at 6,160,000 persons, the 14th largest in the nation. The population of Indiana grew by about 0.6 percent per year between 2000 and 2002 – somewhat slower than the nation (1.2 percent) and the state's average growth from 1990 to 2000 (0.9 percent).

A high proportion of population growth, almost three-quarters over the last decade, was due to natural change – an alarming trend. Without an influx of immigrants to boost Indiana's population directly and subsequently indirectly through the birth of the next generation, the state is at risk for aging faster than the surrounding area. In 2000, the proportion of population in Indiana aged 55 and above was 21.6 – about .4 percentage points below the U.S. Great Lakes regional average (see Chart 45). With current migration trends continuing, Indiana is likely to age much faster than its neighbours, reaching about 28.8 percent 55+ population by 2020 – almost a full percentage point above the regional average.

Chart 45

Indiana's Aging Population



Source: Clayton Research based on data from U.S. Census Bureau

There has been, however, a strong pattern of suburbanization as people move out of the urban centres into surrounding counties, driving up the need for new housing.

Indiana has not performed well in comparison to the nation in a number of qualitative measures such as teenage pregnancy, infant mortality, and per capita income. These figures would seem to indicate that the economic health of Indiana residents is beginning to stagnate. Moreover, the economic prosperity is unevenly distributed, with pockets of higher poverty and low per capita income throughout the state, correlated with population loss and high unemployment rates.

In 2001, Indiana had a per capita personal income of only $27,783 – 32nd in the United States and 9 percent below the national average. Per capita income advanced about 2.0 percent from 2000 to 2001, somewhat lower than the national average.

The majority of Indiana's employment growth is concentrated in the services sector, a shift away from manufacturing. However, manufacturing still remains an important sector in the Indiana economy, and the state actually saw a small increase in the number of jobs over the last decade, which is the opposite of national trends. This shift from a manufacturing to a service-based economy has, over time, hurt the State's economic health.

Minnesota

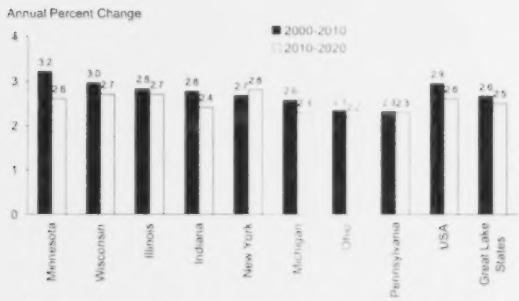
The population of Minnesota in 2002 is estimated at 5,020,000 persons, the 21st largest in the nation. The population of Minnesota grew by about 1 percent between 2000 and 2002 – somewhat slower than the nation (1.2 percent), and the state's average growth through the 1990's (1.2 percent), but fastest amongst the Great Lakes states.

In 2001, Minnesota had a per capita personal income (PCPI) of $33,101. This per capita income ranked 9th among the U.S. states and stood at 9 percent above the national average. The 2001 PCPI reflected an increase of 2.8 percent from 2000.

Earnings of persons employed in Minnesota increased 3.0 percent between 2000 and 2001. The largest industries in 2001 were services, representing 27.6 percent of earnings. State and local government accounted for 11.3 percent; and durable goods manufacturing 10.8 percent. Of the industries that accounted for at least 5 percent of earnings in 2001, the slowest growing from 2000 to 2001 was durable goods manufacturing, which decreased 4.1 percent; the fastest was finance, insurance, and real estate (9.8 percent of earnings in 2001), which increased 9.3 percent.

Chart 46

Gross Domestic/State Product Growth, average annual 2000-2020



Source: Projections by Clayton Research based on data from Bureau of Economic Analysis

Minnesota manufacturers have been forced to slash more than 39,000 jobs over the last two years in response to the long-lasting manufacturing slump. The sector's losses, which foreshadowed the 2001 recession by six months, have waned, but there are few signs of a rebound anytime soon. The two-year manufacturing employment slide has, at least for now, essentially wiped out the 40,000 jobs created by Minnesota manufacturers between 1990 and 2000.

Looking forward, the "North Star State" is expected to have the highest growth in gross state product among the Great Lakes states in the 2000-2010 period, at an annual average growth rate of 3.2 percent (see Chart 46). The average for the U.S. Great Lakes region is forecasted to be 2.6 percent, lower than the national average of 2.9 percent. Thereafter, Minnesota is expected to continue to grow at the above average pace of 2.6 percent through to 2020.

Benchmark Tables & Projections to 2020

Economic Profile & Prospects, U.S.

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	32,712,033	32,534,600	32,846,800
Age 0-19	9,151,379	2,666,400	5,881,900
Age 20-34	-3,340,519	8,687,500	7,936,300
Age 35-54	20,024,490	4,130,500	-1,603,700
Age 55+	6,876,683	17,050,200	20,632,300
Annual Average Change (%)	1.2	1.1	1.0
Total (Low-growth Scenario)		26,133,400	26,696,900
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	1,353,269	1,382,800	1,474,000
Single Family	1,028,829	989,000	1,054,200
Apartments & Other	265,110	224,800	239,600
Mobile Homes	59,330	168,900	180,100
Total (Low-growth Scenario)		1,179,990	1,205,400
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	1,653,100	1,655,400	1,788,600
Single Family	1,103,300	1,079,000	1,148,200
Site-built	1,033,700	985,200	1,004,700
Prefab *	69,600	93,800	143,500
Apartments & Other	267,800	229,800	247,600
Manufactured Housing **	282,000	346,600	392,700
Total (Low-growth Scenario)		1,430,800	1,491,100
Single Family		934,000	972,100
Site-built		852,800	877,400
Prefab *		81,200	94,700
Apartments & Other		196,800	204,000
Manufactured Housing **		300,000	315,000
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	1,032.9	871.1	708.1

Demographics	**2000**	**2010**	**2020**
Population (Persons)	281,421,906	313,956,500	346,803,300
Age 0-19	80,473,265	83,139,700	89,021,600
Age 20-34	58,855,725	67,543,300	75,479,600
Age 35-54	82,826,479	86,957,000	85,353,300
Age 55+	59,266,437	76,316,700	96,949,000
Employment*** (Persons)	131,720,000	148,605,200	162,330,600
Employment Growth	22,317,000	16,885,200	13,725,400
Avg. Annual Change Emp. (%)	1.9	1.2	0.9
Activity Ratio ****	46.8	47.3	46.8

Households (Units)			
Total	105,480,101	119,308,000	134,047,700
Single Family	70,695,314	80,585,600	91,128,000
Apartments & Other	27,290,072	29,538,300	31,934,700
Mobile Homes	7,494,715	9,184,200	10,985,000
Gross Domestic Product (chained 1996 Billions$)			
Total	9,314	12,449	16,110
Annual % change (over decade)	3.5	2.9	2.6
Construction GDP (Chained 1996 $ Millions)			
Total	379	445	508
Annual % change (over decade)	2.3	1.6	1.3

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
^ Employed (non-farm) to
population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD
Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard
Joint Center for Housing Studies; Bank One; RBC Financial Group;
The Freedonia Group, and NAHB.

Economic Profile & Prospects, Great Lakes States

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	5,075,888	5,235,500	5,285,700
Age 0-19	1,298,240	-85,000	570,000
Age 20-34	-2,388,308	1,742,000	1,579,100
Age 35-54	5,061,199	65,100	-1,078,200
Age 55+	1,104,757	3,513,600	4,214,800
Average Annual Change (%)	0.6	0.6	0.6
Total (Low-growth Scenario)		2,241,500	2,672,400
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	259,333	276,100	301,000
Single Family	230,203	214,400	234,100
Apartments & Other	43,166	48,600	52,800
Mobile Homes	(16,593)	12,800	13,900
Total (Low-growth Scenario)		170,000	184,100
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	339,298	339,900	373,600
Single Family	246,864	234,000	255,000
Site-built	220,902	200,000	201,800
Prefab *	25,962	34,000	53,200
Apartments & Other	46,187	49,700	54,700
Manufactured Housing **	46,245	55,100	64,000
Total (Low-growth Scenario)		212,800	233,700
Single Family		148,700	161,100
Site-built		127,000	134,500
Prefab *		21,400	26,500
Apartments & Other		29,400	34,300
Manufactured Housing **		35,000	38,200
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	285.2	210.1	192.3

Demographics	2000	2010	2020
Population (Persons)	81,332,027	86,567,500	91,853,300
Age 0-19	22,833,786	22,748,700	23,318,700
Age 20-34	16,271,857	18,013,800	19,592,900
Age 35-54	24,296,948	24,362,000	23,283,800
Age 55+	17,929,436	21,443,100	25,657,900
Employment*** (Persons)	39,179,200	42,857,400	46,313,700
Employment Growth	4,716,300	3,678,200	3,456,300
Avg. Annual Change Emp. (%)	1.3	0.9	0.8
Activity Ratio****	48.2	49.5	50.4
Households (Units)			
Total	30,973,053	33,733,300	36,742,100
Single Family	20,504,005	22,649,300	24,990,100
Apartments & Other	9,215,833	9,702,900	10,231,300
Mobile Homes	1,253,215	1,381,500	1,520,600

Gross State Product (Chained 1996 $ Millions)			
Total	2,771,414	3,599,800	4,629,300
Rank in U.S.			
Annual % change (over decade)	3.0	2.6	2.5
Construction Gross State Product (Chained 1996 $ Millions)			
Total	104,062	120,500	137,800
Annual % change (over decade)	1.8	1.5	1.4

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
* Employed (non-farm) to
population

Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD
Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard
Joint Center for Housing Studies; Bank One; RBC Financial Group;
The Freedonia Group, and NAHB.

Economic Profile & Prospects, Michigan

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	643,147	683,200	689,800
Age 0-19	90,217	-37,200	59,700
Age 20-34	-270,397	255,700	223,700
Age 35-54	635,665	15,300	-74,600
Age 55+	187,663	449,500	481,000
Average Annual Change (%)	0.7	0.7	0.6
Total (Low-growth Scenario)		161,100	170,000

Growth in Households (Units, Annual Average)			
Total (Base Scenario)	36,633	40,500	44,700
Single Family	32,695	33,300	36,800
Apartments & Other	3,429	4,700	5,200
Mobile Homes	510	2,500	2,800
Total (Low-growth Scenario)		20,900	21,200

Housing Starts (Units, Annual Average)			
Total (Base Scenario)	48,777	53,300	59,600
Single Family	35,061	36,300	40,100
Site-built	31,680	31,500	32,400
Prefab *	3,381	4,800	7,700
Apartments & Other	3,463	4,800	5,300
Manufactured Housing **	10,252	12,200	14,200
Total (Low-growth Scenario)		29,300	30,700
Single Family		19,100	19,700
Site-built		16,500	16,700
Prefab *		2,500	2,900
Apartments & Other		2,500	2,500
Manufactured Housing **		7,800	8,500

Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	40	35	27

Demographics	2000	2010	2020
Population (Persons)	9,938,444	10,621,700	11,311,500
Age 0-19	2,848,191	2,811,000	2,870,700
Age 20-34	2,009,474	2,265,200	2,488,900
Age 35-54	2,989,933	3,005,200	2,930,600
Age 55+	2,090,847	2,540,300	3,021,300
Employment*** (Persons)	4,673,900	5,139,100	5,501,600

Employment Growth	704,200	465,200	362,500
Avg. Annual Change Emp. (%)	1.6	1.0	0.7
Activity Ratio **	47.0	48.4	48.6
Households (Units)			
Total	3,785,661	4,190,700	4,637,900
Single Family	2,847,598	3,180,700	3,548,400
Apartments & Other	708,745	755,500	807,100
Mobile Homes	229,318	254,500	282,300
Gross State Product (Chained 1996 $ Millions)			
Total	305,913	393,900	493,800
Rank in U.S.	9		
Rank in Region	5		
Annual % change (over decade)	3.1	2.6	2.3
Construction Gross State Product (Chained 1996 $ Millions)			
Total	13,594	15,800	18,000
Rank in U.S.	8		
Rank in Region	5		
Annual % change (over decade)	4.3	1.5	1.3

* Modular, panelized and precut homes. ** HUD Code, *** Non-farm civilian
** Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group, and NAHB

Economic Profile & Prospects, Ohio

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	506,025	488,000	492,700
Age 0-19	13,887	-85,700	1,400
Age 20-34	-316,947	140,400	122,000
Age 35-54	651,561	-78,500	-202,200
Age 55+	157,524	511,800	571,500
Average Annual Change (%)	0.5	0.4	0.4
Total (Low-growth Scenario)		186,600	166,600
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	35,823	37,300	41,400
Single Family	33,296	30,900	34,300
Apartments & Other	4,638	5,500	6,100
Mobile Homes	(2,111)	900	1,000
Total (Low-growth Scenario)		26,600	25,700
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	47,632	48,000	53,700
Single Family	35,706	33,700	37,400
Site-built	32,263	29,200	30,300
Prefab *	3,443	4,500	7,100
Apartments & Other	4,685	5,600	6,300
Manufactured Housing **	7,241	8,600	10,000
Total (Low-growth Scenario)		33,900	34,000
Single Family		24,400	24,100
Site-built		21,100	20,500
Prefab *		3,200	3,600
Apartments & Other		4,000	4,000
Manufactured Housing **		5,500	6,000
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	39.9	26.4	23.3

Demographics	2000	2010	2020
Population (Persons)	11,353,140	11,841,200	12,333,900
Age 0-19	3,154,912	3,069,200	3,070,600
Age 20-34	2,273,378	2,413,800	2,535,800
Age 35-54	3,380,859	3,302,400	3,100,200
Age 55+	2,543,991	3,055,800	3,627,300
Employment*** (Persons)	5,624,600	5,993,200	6,319,300
Employment Growth	742,300	368,600	326,100

Avg. Annual Change Emp. (%)	1.4	0.6	0.5
Activity Ratio ^	49.5	50.6	51.2
Households (units)			
Total	4,445,773	4,818,600	5,232,600
Single Family	3,239,015	3,548,100	3,891,300
Apartments & Other	1,011,890	1,067,100	1,128,400
Mobile Homes	194,868	203,400	212,900
Gross State Product (Chained 1996 $ Millions)			
Total	351,764	442,900	551,800
Rank in U.S.	7		
Rank in Region	4		
Annual % change (over decade)	2.8	2.3	2.2
Construction Gross State Product (Chained 1996 $ Millions)			
Total	13,750	15,700	17,700
Rank in U.S.	7		
Rank in Region	4		
Annual % change (over decade)	2.4	1.3	1.2

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
^ Employed (non-farm) to population

Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD; Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group, and NAHB

Economic Profile & Prospects, Wisconsin

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	471,906	361,900	365,400
Age 0-19	81,547	-35,300	32,700
Age 20-34	-112,373	99,000	30,100
Age 35-54	392,798	-10,800	-56,500
Age 55+	109,934	309,000	359,000
Average Annual Change (%)	0.9	0.7	0.6
Total (Low-growth Scenario)		265,600	199,600

Growth in Households (Units, Annual Average)			
Total (Base Scenario)	26,243	23,600	26,300
Single Family	21,407	17,800	19,800
Apartments & Other	5,758	4,300	4,800
Mobile Homes	(923)	1,400	1,600
Total (Low-growth Scenario)		20,500	18,400

Housing Starts (Units, Annual Average)			
Total (Base Scenario)	32,294	28,100	31,500
Single Family	22,956	19,500	21,600
Site-built	20,742	16,900	17,500
Prefab *	2,214	2,600	4,100
Apartments & Other	5,817	4,400	5,000
Manufactured Housing **	3,521	4,200	4,900
Total (Low-growth Scenario)		23,700	22,100
Single Family		17,200	15,700
Site-built		14,900	13,300
Prefab *		2,300	2,300
Apartments & Other		3,900	3,500
Manufactured Housing **		2,700	2,900

Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	21.7	20.0	17.6

Demographics	2000	2010	2020
Population (Persons)	5,363,675	5,725,600	6,091,000
Age 0-19	1,519,456	1,484,100	1,516,800
Age 20-34	1,073,241	1,172,200	1,202,300
Age 35-54	1,596,297	1,585,500	1,529,000
Age 55+	1,174,681	1,483,700	1,842,700

Employment*** (Persons)	2,833,800	3,228,100	3,575,600
Employment Growth	542,300	394,300	347,500
Avg. Annual Change Emp. (%)	2.1	1.3	1.0
Activity Ratio ~	52.8	56.4	58.7
Households (Units)			
Total	2,084,544	2,320,700	2,583,400
Single Family	1,449,699	1,628,200	1,826,600
Apartments & Other	556,010	599,400	647,600
Mobile Homes	78,835	93,200	109,100
Gross State Product (Chained 1996 $ Millions)			
Total	164,971	220,700	287,100
Rank in U.S.	20		
Rank in Region	8		
Annual % change (over decade)	3.7	3.0	2.7
Construction Gross State Product (Chained 1996 $ Millions)			
Total	6,899	8,100	9,200
Rank in U.S.	21		
Rank in Region	8		
Annual % change (over decade)	3.4	1.6	1.3

* Modular, panelized and precut homes; ** HUD Code; *** Non-farm civilian
~ Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD; Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group; and NAHB

Economic Profile & Prospects, New York

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	986,002	1,301,400	1,313,900
Age 0-19	542,843	96,500	216,100
Age 20-34	-750,500	466,900	569,200
Age 35-54	1,031,932	119,300	-284,000
Age 55+	161,727	618,700	812,600
Average Annual Change (%)	0.5	0.7	0.6
Total (Low-growth Scenario)		401,600	867,100
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	41,754	54,500	58,300
Single Family	34,182	35,000	37,400
Apartments & Other	15,111	15,200	16,300
Mobile Homes	(7,540)	4,200	4,500
Total (Low-growth Scenario)		22,600	39,100
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	57,174	60,000	64,900
Single Family	36,656	38,200	40,800
Site-built	31,944	31,400	30,400
Prefab *	4,712	6,800	10,400
Apartments & Other	15,265	15,600	16,900
Manufactured Housing **	5,253	6,300	7,300
Total (Low-growth Scenario)		26,600	44,100
Single Family		16,100	28,300
Site-built		13,200	22,700
Prefab *		2,900	5,600
Apartments & Other		6,500	11,400
Manufactured Housing **		4,000	4,300
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	51.0	32.6	40.5

Demographics	2000	2010	2020
Population (Persons)	18,976,457	20,277,800	21,591,700
Age 0-19	5,346,917	5,443,400	5,659,500
Age 20-34	3,796,587	4,263,500	4,832,700
Age 35-54	5,670,537	5,789,800	5,505,800
Age 55+	4,162,416	4,781,100	5,593,700
Employment*** (Persons)	8,635,200	9,513,800	10,604,000

Employment Growth	422,900	878,600	1,090,200
Avg. Annual Change Emp. (%)	0.5	1.0	1.1
Activity Ratio "	45.5	46.9	49.1
Households (units)			
Total	7,056,860	7,601,700	8,184,400
Single Family	3,287,612	3,637,600	4,011,800
Apartments & Other	3,596,096	3,748,600	3,911,700
Mobile Homes	173,152	215,600	261,000
Gross State Product (Chained 1996 $ Millions)			
Total	774,311	1,007,800	1,326,900
Rank in U.S.	2		
Rank in Region	1		
Annual % change (over decade)	2.7	2.7	2.8
Construction Gross State Product (Chained 1996 $ Millions)			
Total	21,234	24,500	28,400
Rank in U.S.	3		
Rank in Region	1		
Annual % change (over decade)	-0.4	1.4	1.5

* Modular, panelized and precut homes. ** HUD Code. *** Non-farm civilian
" Employed (non-farm) to
population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD
Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard
Joint Center for Housing Studies; Bank One; RBC Financial Group;
The Freedonia Group, and NAHB

Economic Profile & Prospects, Pennsylvania

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	399,411	357,900	361,300
Age 0-19	91,762	-104,800	-17,100
Age 20-34	-449,958	79,100	101,400
Age 35-54	705,474	-100,100	-346,400
Age 55+	52,133	483,700	623,400
Average Annual Change (%)	0.3	0.3	0.3
Total (Low-growth Scenario)		150,600	217,000
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	28,104	27,700	30,800
Single Family	28,432	24,400	27,200
Apartments & Other	3,005	3,800	4,200
Mobile Homes	(3,333)	(500)	(600)
Total (Low-growth Scenario)		21,100	23,400
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	39,881	38,100	42,700
Single Family	30,490	26,600	29,600
Site-built	26,571	21,900	22,100
Prefab *	3,919	4,700	7,500
Apartments & Other	3,035	3,900	4,400
Manufactured Housing **	6,356	7,600	8,800
Total (Low-growth Scenario)		28,300	31,800
Single Family		20,600	23,200
Site-built		16,900	18,600
Prefab *		3,600	4,600
Apartments & Other		3,000	3,300
Manufactured Housing **		4,800	5,300
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	43.2	20.0	19.3

Demographics	2000	2010	2020
Population (Persons)	12,281,054	12,638,900	13,000,200
Age 0-19	3,250,340	3,145,500	3,128,400
Age 20-34	2,325,505	2,404,600	2,506,000
Age 35-54	3,664,186	3,564,100	3,217,700
Age 55+	3,041,023	3,524,800	4,148,200
Employment*** (Persons)	5,691,200	6,009,100	6,316,200
Employment Growth	521,100	317,900	307,100

Avg. Annual Change Emp. (%)	1.0	0.5	0.5
Activity Ratio ^	46.3	47.5	48.6
Households (units)			
Total	4,777,003	5,054,100	5,362,300
Single Family	3,584,832	3,829,000	4,100,500
Apartments & Other	973,684	1,011,600	1,053,800
Mobile Homes	218,487	213,500	208,000
Gross State Product (Chained 1996 $ Millions)			
Total	375,861	472,200	590,700
Rank in U.S.	6		
Rank in Region	3		
Annual % change (over decade)	2.6	2.3	2.3
Construction Gross State Product (Chained 1996 $ Millions)			
Total	14,457	16,400	18,500
Rank in U.S.	6		
Rank in Region	3		
Annual % change (over decade)	0.5	1.3	1.2

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
^ Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD; Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group, and NAHB.

Economic Profile & Prospects, Illinois

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	988,691	1,079,200	1,089,500
Age 0-19	295,422	89,100	187,800
Age 20-34	-300,579	416,800	337,600
Age 35-54	820,572	75,300	-65,600
Age 55+	173,276	498,000	629,800
Average Annual Change (%)	0.8	0.8	0.8
Total (Low-growth Scenario)		478,100	624,600
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	38,954	42,900	45,500
Single Family	35,066	33,000	35,000
Apartments & Other	3,826	8,100	8,600
Mobile Homes	(2,495)	1,700	1,800
Total (Low-growth Scenario)		21,800	26,500
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	48,343	49,500	53,000
Single Family	37,604	36,000	38,100
Site-built	33,978	31,200	30,800
Prefab *	3,626	4,800	7,300
Apartments & Other	6,448	8,300	8,900
Manufactured Housing **	4,291	5,100	5,900
Total (Low-growth Scenario)		26,100	31,800
Single Family		18,600	23,000
Site-built		16,100	19,600
Prefab *		2,500	3,400
Apartments & Other		4,300	5,200
Manufactured Housing **		3,200	3,500
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	47.8	39.2	38.5

Demographics	2000	2010	2020
Population (Persons)	12,419,293	13,498,500	14,588,000
Age 0-19	3,594,651	3,683,800	3,871,600
Age 20-34	2,552,693	2,969,500	3,307,100
Age 35-54	3,687,443	3,762,800	3,697,200
Age 55+	2,584,506	3,082,500	3,712,300
Employment*** (Persons)	6,044,800	6,582,500	7,111,600

Employment Growth	756,400	537,700	529,100
Avg. Annual Change Emp. (%)	1.3	0.9	0.8
Activity Ratio ˇ	48.7	48.8	48.7
Households (Units)			
Total	4,591,779	5,020,300	5,474,900
Single Family	2,941,950	3,272,100	3,622,400
Apartments & Other	1,511,749	1,593,200	1,679,500
Mobile Homes	138,080	155,100	173,100
Gross State Product (Chained 1996 $ Millions)			
Total	441,481	583,000	763,900
Rank in U.S.	4		
Rank in Region	2		
Annual % change (over decade)	3.3	2.8	2.7
Construction Gross State Product (Chained 1996 $ Millions)			
Total	18,250	21,300	24,500
Rank in U.S.	5		
Rank in Region	2		
Annual % change (over decade)	1.9	1.6	1.4

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
ˇ Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group, and NAHB

Economic Profile & Prospects, Indiana

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	536,326	426,300	430,300
Age 0-19	64,668	4,000	12,400
Age 20-34	-79,011	76,600	111,700
Age 35-54	417,194	22,200	-57,200
Age 55+	133,476	323,500	363,400
Average Annual Change (%)	0.9	0.7	0.6
Total (Low-growth Scenario)		275,000	164,000
Growth in Households (Units, Annual Average)			
Total (Base Scenario)	27,095	24,100	26,400
Single Family	23,468	19,500	21,400
Apartments & Other	3,826	3,200	3,500
Mobile Homes	(199)	1,400	1,500
Total (Low-growth Scenario)		18,900	14,500
Housing Starts (Units, Annual Average)			
Total (Base Scenario)	36,063	32,900	36,600
Single Family	25,167	21,300	23,300
Site-built	22,740	18,500	18,800
Prefab *	2,427	2,800	4,500
Apartments & Other	3,865	3,200	3,600
Manufactured Housing **	7,031	8,400	9,700
Total (Low-growth Scenario)		24,800	21,000
Single Family		17,000	13,200
Site-built		14,700	11,300
Prefab *		2,300	2,000
Apartments & Other		2,500	2,000
Manufactured Housing **		5,300	5,800
Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	23.1	20.7	15.0

Demographics	2000	2010	2020
Population (Persons)	6,080,485	6,506,700	6,937,100
Age 0-19	1,707,879	1,711,900	1,724,300
Age 20-34	1,253,733	1,330,300	1,442,000
Age 35-54	1,807,146	1,829,300	1,772,100
Age 55+	1,311,728	1,635,300	1,998,700
Employment*** (Persons)	3,000,000	3,305,700	3,527,400

Employment Growth	478,100	305,700	221,700
Avg. Annual Change Emp. (%)	1.8	1.0	0.7
Activity Ratio ^	49.3	50.8	50.8
Households (Units)			
Total	2,336,306	2,577,000	2,840,900
Single Family	1,765,189	1,960,400	2,174,300
Apartments & Other	425,305	456,900	491,400
Mobile Homes	145,812	159,800	175,100
Gross State Product (Chained 1996 $ Millions)			
Total	182,367	239,700	305,200
Rank in U.S.	15		
Rank in Region	6		
Annual % change (over decade)	3.7	2.8	2.4
Construction Gross State Product (Chained 1996 $ Millions)			
Total	8,046	9,400	10,800
Rank in U.S.	17		
Rank in Region	6		
Annual % change (over decade)	3.1	1.6	1.4

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
^ Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group, and NAHB

Economic Profile & Prospects, Minnesota

	1990-2000	2000-2010	2010-2020
Population Growth (Persons)			
Total (Base Scenario)	544,380	537,600	542,800
Age 0-19	117,894	-11,600	77,000
Age 20-34	-108,543	207,500	83,400
Age 35-54	406,005	22,400	8,300
Age 55+	129,024	319,400	374,100
Average Annual Change (%)	1.2	1.0	1.0
Total (Low-growth Scenario)		322,900	263,500

Growth in Households (Units, Annual Average)			
Total (Base Scenario)	24,727	25,500	27,600
Single Family	21,657	20,500	22,200
Apartments & Other	3,573	3,800	4,100
Mobile Homes	(502)	1,200	1,300
Total (Low-growth Scenario)		17,600	15,300

Housing Starts (Units, Annual Average)			
Total (Base Scenario)	29,134	29,000	31,600
Single Family	23,224	22,400	24,100
Site-built	20,984	19,400	19,500
Prefab *	2,240	3,000	4,600
Apartments & Other	3,609	3,900	4,300
Manufactured Housing **	2,300	2,700	3,200
Total (Low-growth Scenario)		20,100	18,200
Single Family		15,700	13,900
Site-built		13,600	11,800
Prefab *		2,100	2,100
Apartments & Other		2,700	2,400
Manufactured Housing **		1,700	1,900

Non Residential Put in Place Construction (Millions Sq. Ft., Annual Average)			
Total	18.1	16.7	11.1

Demographics	2000	2010	2020
Population (Persons)	4,919,479	5,457,100	5,999,900
Age 0-19	1,411,440	1,399,800	1,476,800
Age 20-34	987,246	1,194,700	1,278,100
Age 35-54	1,500,549	1,522,900	1,531,200
Age 55+	1,020,244	1,339,600	1,713,700
Employment*** (Persons)	2,675,700	3,085,900	3,358,000

Employment Growth	549,000	410,200	272,100
Avg. Annual Change Emp. (%)	2.3	1.4	0.8
Activity Ratio ˇ	54.4	56.5	56.0
Households (Units)			
Total	1,895,127	2,150,200	2,425,700
Single Family	1,388,110	1,593,200	1,814,800
Apartments & Other	432,354	470,600	511,800
Mobile Homes	74,663	86,400	99,100
Gross State Product (Chained 1996 $ Millions)			
Total	174,746	239,600	309,900
Rank in U.S.	16		
Rank in Region	7		
Annual % change (over decade)	4.1	3.2	2.6
Construction Gross State Product (Chained 1996 $ Millions)			
Total	7,832	9,300	10,700
Rank in U.S.	18		
Rank in Region	7		
Annual % change (over decade)	4.0	1.7	1.4

* Modular, panelized and precut homes, ** HUD Code, *** Non-farm civilian
ˇ Employed (non-farm) to population
Note: Sums may not add due to rounding

Source: Clayton Research based on data from US Census Bureau; HUD Bureau of Economic Analysis; Bureau of Labour Statistics; Manufactured Housing Institute; Harvard Joint Center for Housing Studies; Bank One; RBC Financial Group; The Freedonia Group; and NAHB

Appendix A

Definitions and Glossary

Appendix A

Definition of the U.S. Great Lakes Area

The U.S.Great Lakes states region comprises eight states that geographically form natural export markets for Ontario. The province has borders with the states of New York; Michigan; Wisconsin and Minnesota and is located in close proximity to the remaining states in the region; namely, Pennsylvania, Indiana, Ohio and Illinois.

Glossary of Terms Used

OSB	Oriented Strand Board / Waferboard
MDF	Medium Density Fibreboard
MSR	Machine Stress Rated (lumber)
EWP	Engineered Wood Product
LLT	Living Legacy Trust
BC	British Columbia
US	United States
NAICS	North American Industrial Classification System
SFPA	Southern Forest Products Association
OFIA	Ontario Forest Industries Association
OLMA	Ontario Lumber Manufacturers Association
FTE	Full Time Equivalent
HUD	Housing and Urban Development
R&D	Research & Development
CAPEX	Capital Expenditures
PCPI	Per Capita Personal Income
SIPs	Structural Insulated Panels
EWF	Engineered Wood Floor
MHI	Manufactured Housing Institute
USITC	U.S. International Trade Commission
SPF	Spruce-Pine-Fir
SYP	Southern Yellow Pine

LVL	Laminated Veneer Lumber
SCL	Structural Composite Lumber (same as LVL)
LSL	Laminated Strand Lumber (eg. TimberStrand, see page 72)
LSL	Laminated Structural Lumber (eg. Anthony Power Beam® LSL
PSL	Parallel Strand Lumber (eg. Parallam)
SME	Small and Medium Enterprises
NAREIT	National Association of Real Estate Investment Trusts
SLA	Softwood Lumber Agreement
FJ	Fingerjoint